Omnitron Systems Technology, Inc.

iConverter® RS232
Serial RS-232 to Fiber Media Converter
User Manual

Port 1 (P1)

Port 2 (P2)

***iConverter* RS232 Models**					
Fiber Type / Dual Fiber (DF) / Wavelength (nm)	Distance	Fiber Connector Types			
		ST	SC	MT-RJ	LC
MM/DF/1310	5km	8760-0	8762-0	8764-0	-
SM/DF/1310	30km	8761-1	8763-1	8765-1	8767-1
SM/DF/1310	60km	8761-2	8763-2	-	8767-2
SM/DF/1550	120km	-	8763-3	-	8767-3
When ordering module with terminal block serial port, append 'T' before the dash '-' in the part number. Examples: 8760T-0, 8763T-3, 8770T-1					

***iConverter* RS232 Single-Fiber Models**		
Fiber Type / or Single-Fiber (SF) / Wavelength (nm)	Distance	Fiber Type
		SC
SM/SF Tx1310 / Rx1550	20km	8770-1
SM/SF Tx 1550 / Rx 1310	20km	8771-1
SM/SF Tx1310 / Rx1550	40km	8770-2
SM/SF Tx 1550 / Rx 1310	40km	8771-2
For wide temperature (-40 to 60ºC), add a "W" to the end of the model number. Consult factory for extended temperature (-40 to +75ºC) models. When using single-fiber (SF) media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other. When ordering module with terminal block serial port, append 'T' before the dash '-' in the part number. Examples: 8760T-0, 8763T-3		

OVERVIEW:

The Omnitron ***iConverter*** RS232 is a manageable serial RS-232 to fiber converter that transmits serial signals over fiber media. Fiber transmission can extend serial signals up to 120km and is immune from electrical and magnetic interference. The RS232 is available with a single-mode, multimode or single-fiber transceiver. The serial port is available with a DB-9 female connector or terminal block connector.

The RS232 automatically detects the signal baud rate of the connected serial device, ranging from 110 to 921,600 baud. The RS232 automatically adjusts to changes in the connected device's baud rate during operation, without reconfiguration or interruption.

Connection to DTE or DCE devices is configured by an easily accessible DIP-Switch on the front-panel. A built-in remote Fiber Loop-Back DIP-Switch provides easy validation of the entire fiber segment from either terminal RS232 converter, without having to enable this function on both converters.

The RS232 is designed to work in any ***iConverter*** chassis. When installed in a multi-module chassis, the RS232 can be remotely monitored and managed by software control. The ***iConverter*** 19-Module, 5-Module and 2-Module chassis all support the software control feature. The 1-Module chassis supports RS232 as a standalone serial to fiber converter.

Note that software control for remote configuration of the RS232 requires a multi-module chassis with an *iConverter* Management Module, such as the Network Management Module (NMM).

For more information on using and configuring RS232 via software control, please refer to the *NetOutlook*™ Management Software user manual.

PORT STRUCTURE:

Front-Panel Ports:

The front-panel of the ***iConverter*** RS232 features one fiber port (P1) and one RS-232 serial port (P2). Depending on the model, the serial port is available either as a DB-9 female connector or as a terminal block for field wiring. Please refer to Fig. 1a and Fig. 1b for connector pin-out assignment.

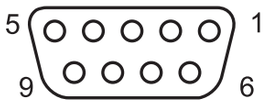

Fig. 1a DB-9 Connector Pin-Out Assignment

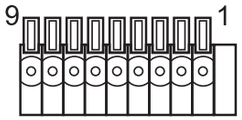

Fig. 1b Terminal Block Pin-Out Assignment

PIN No.	PIN Signal	Abbr.	DTE	DCE
1	Data Carrier Detect	DCD	IN	OUT
2	Received Data	RD	IN	OUT
3	Transmitted Data	TD	OUT	IN
4	Data Terminal Ready	DTR	OUT	IN
5	Signal Ground	SGND	-	-
6	Data Set Ready	DSR	IN	OUT
7	Request to Send	RTS	OUT	IN
8	Clear to Send	CTS	IN	OUT
9	Ring Indicator	RI	IN	OUT

DIP-SWITCH SETTINGS:

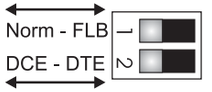

Fig. 2 Front-Panel DIP-Switches

SW1: Normal and Fiber Loop-Back "Norm / FLB" DIP-Switch:

When the Normal and Fiber Loop-Back "Norm / FLB" DIP-Switch is in the normal mode "Norm" position (factory default), the Fiber Loop-Back is disabled. Setting this DIP-Switch to the "FLB" position on the RS232 at either end of the fiber segment will enable the Fiber Loop-Back test. When Fiber Loop-back is enabled, the local RS232 with the DIP-Switch in "FLB" position is the master, and the remote RS232 with the DIP-Switch in "Norm" position is the slave. The "Tst" LED on the master will blink rapidly (10 times per second) and the "Tst" LED on the slave will blink slowly (once per second) if the fiber segment passes the Loop-back test. If the fiber segment fails the Loop-back test, the "Tst" LED on master unit will remain solid.

Note that the Fiber Loop-back test does not interfere with serial conversion and signal transmission.

Note that only one RS232 on either end of the fiber segment needs to be set to "FLB" position during the Loop-back test.

SW2: Serial "DCE / DTE" DIP-Switch:

When the "DCE / DTE" DIP-Switch is in the "DCE" position (factory default), the RS232 is configured to connect to Data Communications Equipment such as a modem or

printer. Setting this DIP-Switch to the "DTE" position configures the RS232 to connect to Data Terminal Equipment such as a computer or controller. Please refer to the PORT STRUCTURE section of this manual for more details.

MOUNTING AND CABLE ATTACHMENT:

iConverter modules are hot-swappable and can be installed into any chassis in the ***iConverter*** family.

1. After configuring the DIP-Switches, carefully slide the ***iConverter*** module into the installation slot, aligning the module with the installation guides. Ensure that the module is firmly seated against the Backplane.
2. Secure the module by fastening the panel thumb screw (attached to the module) to chassis front.
3. Attach the serial ports via a DB-9 serial cable (or an open-end serial cable) to a serial RS-232 device.
4. Attach the fiber port via an appropriate multimode or single-mode fiber cable to a 100BASE-FX Fast Ethernet device. The ***iConverter*** transmit (Tx) must attach to the receive side on the other device; the receive (Rx) must attach to the transmit side.
5. When using single-fiber (SF) media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other. Note that based on this guideline the SF media converter models must be used in pairs, such as the 8770-1 matched with the 8771-1.

RS232 LED INDICATORS:

LED Function "Legend"	Color	Off State	On / Blinking State
Power "Pwr"	Amber	No Power	Module has power
Fiber Loop-back Test "Tst"	Green	Normal Mode	Solid: Master mode Tx pattern sent, but no Rx received 10 Hz (Blinking 10x per second): Master mode, Tx pattern sent, and Rx pattern received 1 Hz (Blinking once per second): Slave mode, Rx pattern received
Fiber Link and Activities "Act"	Green	No Fiber Link	Solid: Fiber Link Blinking:: Fiber Data Transmission
"DTE" Mode	Green	DTE mode not selected	DTE mode selected
"DCE" Mode	Green	DCE mode not selected	DCE mode selected
Serial Activities "Act"	Green	No serial data	Serial data received

RS232 SPECIFICATIONS:

Model Type	**RS232**
Protocols	Asynchronous Serial RS-232
Copper Connectors	DB-9 Female or Terminal Block
Fiber Connectors	ST, SC, MT-RJ, LC
Controls	DTE/DCE, Fiber Loop-Back
LED Displays	Power, Test, Fiber Lnk/Act, DTE, DCE, Serial Act
Dimensions	W:0.85" x D:4.5" x H:2.8"
Weight	8 oz.
Compliance	UL, CE, FCC Class A
Power Requirement	0.5A @ 3.3VDC (typical)
Temperature	Standard: 0 to 50º C Wide: -40 to 60º C Storage: -40 to 80º C
Humidity	5 to 95% (non-condensing)
Altitude	-100m to 4000m
MTBF (hrs)	850,000

Warning

The operating description in this Instruction Manual is for use by qualified personnel only. To avoid electrical shock, do not perform any servicing of this unit other than that contained in the operating instructions, unless you are qualified and certified to do so by Omnitron Systems Technology, Inc.

Warranty

This product is warranted to the original purchaser against defects in material and workmanship for a period of TWO YEARS from the date of shipment. A LIFETIME warranty may be obtained by the original purchaser by REGISTERING this product with Omnitron within 90 days from the date of shipment. TO REGISTER, COMPLETE AND MAIL OR FAX THE ENCLOSED REGISTRATION FORM TO THE INDICATED ADDRESS. Or you may register your product on the Internet at www.omnitron-systems.com. During the warranty period, Omnitron will, at its option, repair or replace a product which is proven to be defective.

For warranty service, the product must be sent to an Omnitron designated facility, at Buyer's expense. Omnitron will pay the shipping charge to return the product to Buyer's designated US address using Omnitron's standard shipping method.

Limitation of Warranty

The foregoing warranty shall not apply to defects resulting from improper or inadequate use and/or maintenance of the equipment by Buyer, Buyer-supplied equipment, Buyer-supplied interfacing, unauthorized modifications

or tampering with equipment (including removal of equipment cover by personnel not specifically authorized and certified by Omnitron), or misuse, or operating outside the environmental specification of the product (including but not limited to voltage, ambient temperature, radiation, unusual dust, etc.), or improper site preparation or maintenance.

No other warranty is expressed or implied. Omnitron specifically disclaims the implied warranties of merchantability and fitness for any particular purpose.

Exclusive Remedies

The remedies provided herein are the Buyer's sole and exclusive remedies. Omnitron shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any legal theory.

TECHNICAL SUPPORT:

For help with this product, contact our Technical Support:

Phone: (949) 250-6510
Fax: (949) 250-6514
Address: Omnitron Systems Technology, Inc.
140 Technology Dr., 3500
Irvine, CA 92618 USA
E-mail: support@omnitron-systems.com
URL: www.omnitron-systems.com

Form: 040-08760-001C 9/07